The WindView User Guide

WindView was created by AWS Truewind, LLC to allow users to view and query wind data in an interactive environment, as well as modify, copy, and print maps. This CD contains an ArcGIS published map file (.pmf), related spatial data, and other associated files necessary to view the interactive map using ArcReader software. The CD also contains files not used by ArcReader including static image files (such as JPEG or PDF) of various wind resource maps. The spatial data used by ArcReader can also be imported by various GIS software packages.

ArcReader is a free program created by the Environmental System Research Institute (ESRI, Inc) to allow for the sharing and distribution of dynamic maps created using ArcGIS. ArcReader allows users to open the .pmf files, view and query a wide variety of spatial data in an interactive environment, print and copy maps. For instructions on using the software see the ArcReader Help menu, or visit the ArcReader section of the ESRI website at: http://www.esri.com/software/arcgis/arcreader/index.html.

ArcReader System Requirements

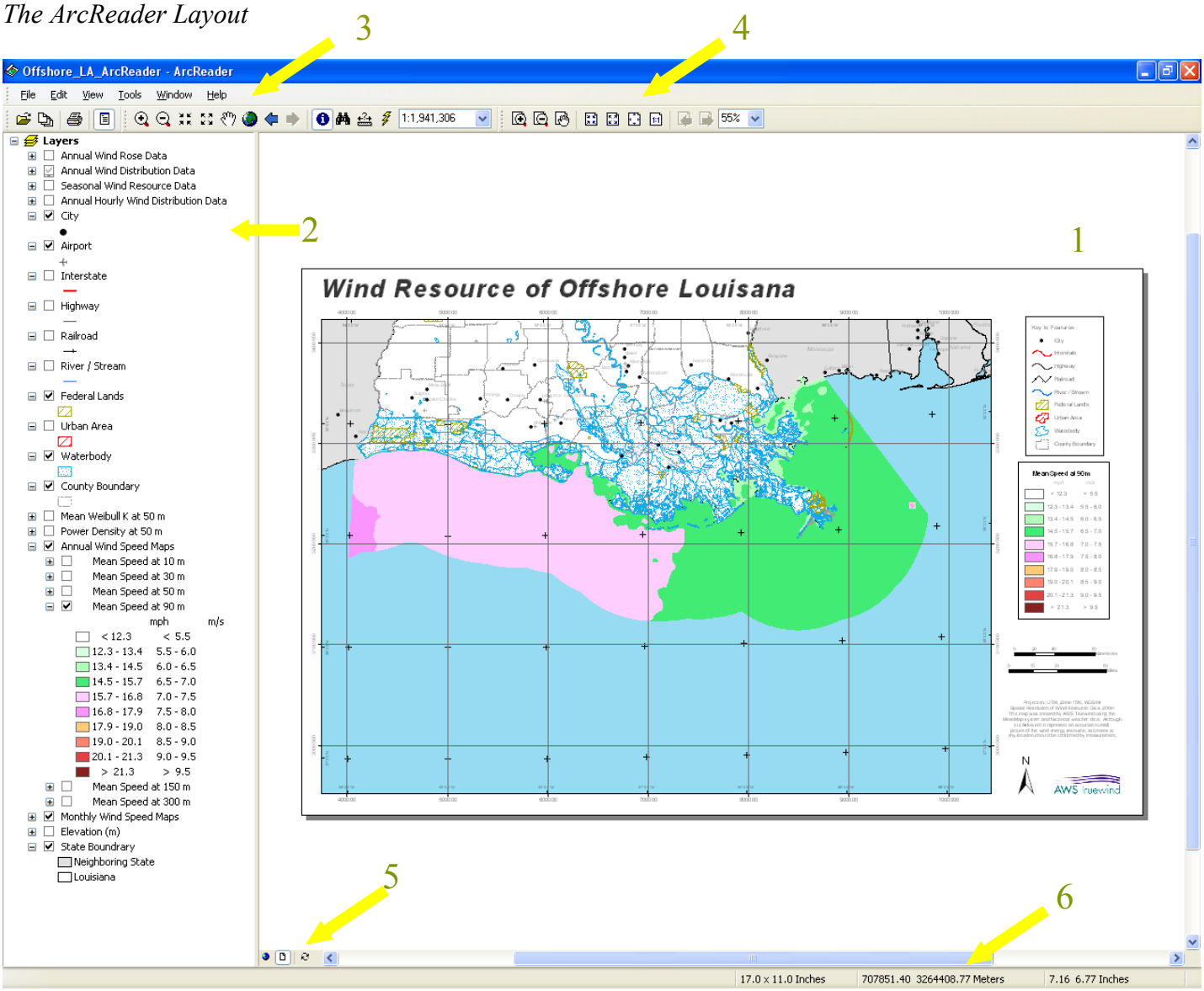
According to ESRI, ArcReader 9.1 will work on a PC-Intel system with Windows NT 4.0 service pack 6a, Windows 2000 or Windows XP operating systems. It will not work on Windows ME, 98 or earlier. Due to the relatively large amount of data used in the program, it is also required that the system have at least a 450 MHz processor and a minimum of 128 MB of RAM. The program will take up 200 MB of disk space on the system's hard drive.

Using the ArcReader Project

Opening the Project

Start ArcReader either by double clicking on the published map file (.pmf) in your project directory, or by going to the Start menu and select Start >>Programs >>ArcGIS >> ArcReader. To open WindView from a blank ArcReader project, go to the File menu and click Open. Navigate to the directory where the files were placed and then choose the file in the root directory with a .pmf extension. Highlight the file and click Open.

The ArcReader Layout



The ArcReader working environment contains a (1) Map Window, (2) Table of Contents (3) Menu, (4) Toolbar, (5) Refresh Button, Layout View/Data View Toggle, and (6) Coordinate Window. For more detailed information regarding the parts of ArcReader see the tutorial on the ArcReader installation disk.

Navigating ArcReader

The Map Window, Table of Contents and Toolbar will be the main components necessary for viewing and querying data in the WindView.

Map Window

When the project is first loaded the map window will open with a printable map including a title, scale bars, north arrow, logos, and legend. This screen is also known as the 'Layout View'. If you wish to modify, view, or print your map in absence of these features you can click on the 'Data View' button (globe) near the Refresh button as indicated by '*The ArcReader Layout*'. We recommend the 'Data View' for most of your data queries and viewing purposes. The button in between the globe and refresh buttons will allow you to return back to the Layout View.

Table of Contents

The Table of Contents lists and displays the symbology for each map feature (layer). Directly to the left of the name for each layer is a small box that will either contain a checkmark, be blank, or grayed-out. The checkmark indicates the layer is turned on and is active in the map window; it will be visible unless covered by another layer (note that only one layer displaying wind resource and/or elevation/land cover data will be visible at a time). The layers with grayed-out checkmarks have a scale threshold set for viewing and are cannot be toggled on/off until they are at the appropriate scale. To determine the set threshold, right click on the layer name and select the general tab. The layers without a checkmark are not active and thus not visible in the map window. Click the empty box to make these layers visible.

If you wish to show or hide the symbology for a specific layer, click in the box to the left of the active layers checkmark box. A plus sign indicates that the layer's symbology is hidden whereas a minus sign indicates the symbology for the layer is visible.

Map Layers:

- Wind Resource:
  - Wind Rose Data: This layer becomes visible at a scale of 1:400,000 or greater. All of the points have tabular data associated with them and can be viewed using the identify tool. In addition the blue points have a wind rose image available in JPEG format. The Wind Rose data includes the annual frequency, mean speed (percent), and percent of total wind energy from each of 16 directions (starting due north clockwise). In order to view the related images for a given point, the Hyperlink tool must be used (see '*Main Toolbar Functions*' below).
  - Main Distribution Data: This layer contains geographic information and average annual wind resource values for each grid cell. The layer becomes visible at a scale of 1:50,000 or greater.
  - Seasonal Distribution Data: This layer contains geographic information and average seasonal wind resource values for each grid cell. The layer becomes visible at a scale of 1:50,000 or greater.
  - Monthly Distribution Data: This layer contains geographic information and average monthly wind resource values for each grid cell. The layer becomes visible at a scale of 1:50,000 or greater.
  - Hourly Distribution Data: This layer contains geographic information and average hourly wind resource values. The layer becomes visible at a scale of 1:400,000 or greater.
- City
- Airport
- Interstate
- Highway
- Railroad
- River / Stream
- Federal Land
- County Boundary
- Park
- State Boundary
- Urban Area
- Water Body
- The following layers include a portion of the wind resource database, and are displayed in a grid (raster) format. <u>Only one of these layers can be viewed at a time.</u>
  - Annual Mean Wind Speed (10, 30, 50, 90, 150, 300m)
  - Annual Wind Power Density (50m)

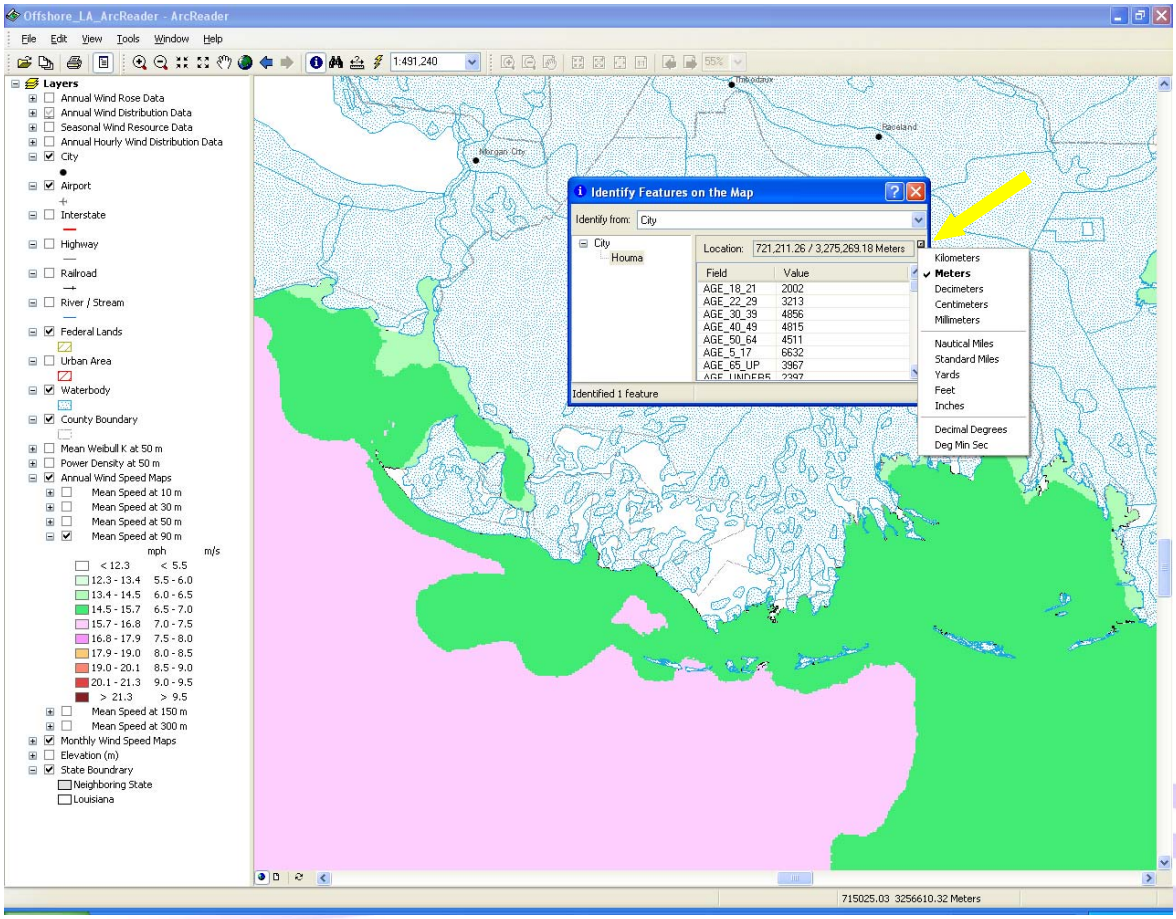
- Monthly Speed Maps (50m)
- Projected in UTM, Zone 15N, WGS84 (meters)

At any point you may zoom to the extent of a given layer by right clicking on that layer and choosing 'Zoom to Layer Extent'. Using View >> Bookmarks in the main menu, you may zoom to the original "Full View" of your area at any time.

Main Toolbar Functions:

-  Zoom in by clicking a point or dragging a box around an area of interest
-  Zoom out by clicking a point or dragging a box around an area of interest
-  Zoom in on the center of the map by a factor of two with a single click
-  Zoom out on the center of the map by a factor of two with a single click
-  Pan (move) around the map by clicking on it and dragging in any direction
-  Zoom to the full extent of all layers in the Table of Contents by a single click
-  Zoom to the previous extent/Zoom to the next extent by a single click
-  Identify related information about a feature by clicking on the tool and then clicking on that feature in the Map Window. When you first identify an object the program will automatically default to identifying information from the top most VISIBLE layer. If you wish to identify attributes from another layer you can then choose that layer from the drop down menu under 'Identify from' in the information box.

  When using the identify tool the coordinates of the feature or feature part that is being queried are displayed in the identify box in a box titled 'Location'. The default coordinates are the units of the map projection, these units can be changed by clicking on the small box above the upper right corner of the 'Location' box as shown below.



-  Measure distances between features on your map. Once you select the tool you can single click on the first feature then single click either at another point, or along a path you wish to measure. Double click to end you measurement. The distance will be displayed in the bottom left corner of the window. The unit measurement is in meters since the data projection is in UTM, meters coordinate system.
-  Hyperlink from a Wind Rose point to the Wind Rose Image by clicking on the tool and clicking on one of the blue points in the map. This tool will automatically open the outside data for you to view. By simply holding the hyperlink button over the point, the program will display the file name of the Wind Rose image.

Layout View Toolbar:

Note that when you are in the Layout View, there are several tools available to the right of the scale text bar. Many of these buttons have similar symbols (magnifying glass, hand, etc) and are alike in function to the main tools mentioned above. However, the main tools will alter the appearance of the map in your layout whereas the layout tools will not. The layout tools will only allow you to move around the layout - they will not change the scale of the map.

Two additional layout tools are:

-  Zoom to the full extent of the layout

-  Zoom to the actual print size of you document

Copying and Printing Maps

Once you have selected an area of interest, you can copy the map to the Windows clipboard by selecting Copy Map from the Edit Menu. To print the image in your Map Window simply choose Print from the main menu, or click on the Print icon. You may also print from the Data View in absence of the other map elements by clicking on the globe and then choosing print. Your Page Setup may also be adjusted under the main File menu.

For More Information

If you have any questions about the ArcReader program, please see the documentation under the Help menu, view the information on the ArcReader Installation disk, visit http://www.esri.com/software/arcgis/arcreader/index.html, or contact sclark@awstruewind.com.

For help with information about the database or any other aspects of the wind maps, contact mbrower@awstruewind.com.